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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

First Named Inventor	: Laurence Lee et al.	
Appln. No.	: 09/~~971~~917,433	
Filed	: July 27, 2001	Group Art Unit: 1762
For	: APPARATUS AND PROCESS FOR COATING PARTICLES	Examiner: E. Tsoy
Docket No.:	P430.12-0002	

BRIEF FOR APPELLANT

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
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I HEREBY CERTIFY THAT THIS PAPER IS BEING SENT BY U.S. MAIL, FIRST CLASS, TO THE COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, THIS

~~30th~~ DAY OF March 2004.

PATENT ATTORNEY

Sir:

This is an appeal from an Office Action dated November 6, 2003 in which claims 13-19 and 26-30 were finally rejected.

REAL PARTY IN INTEREST

Primera Foods Corporation, a corporation organized under the laws of the state of Wisconsin, and having offices at P.O. Box 373, Cameron, Wisconsin 54822, has acquired the entire right, title and interest in the application.

RELATED APPEALS AND INTERFERENCES

There are no known related appeals or interferences involving the subject matter or issues in this appeal, and there are not known appeals or interferences that will directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

STATUS OF THE CLAIMS

I. Status of all the claims.

A. Claims cancelled: 1-12, 19 and 29-26

It should be noted that Applicant respectfully requests claim 19 be cancelled in response to the Examiner's objection to claim 19 in the Office Action mailed on November 6, 2003.

B.	Claims withdrawn but not cancelled:	None
C.	Claims pending:	13-18 and 26-30
D.	Claims allowed:	None
E.	Claims rejected:	13-19 and 26-30
II. Claims on appeal		
A.	The claims on appeal are:	13-18 and 26-30

STATUS OF AMENDMENTS

No amendments or responses were submitted after rejection of claim 13-19 and 26-30 in a fourth Office Action mailed on November 6, 2003.

SUMMARY OF INVENTION

The present invention includes a process for coating particles within an upward flowing fluid bed dryer or granulator. See p. 5, ll. 10-13. The upward flowing fluid bed dryer or granulator includes a screen across a bottom of the dryer or granulator. See p. 8, ll. 14-17. An insert is positioned above the screen where the insert includes a substantially cylindrical partition, which is located on a vertical axis of the granulator or dryer. See p. 5, ll. 16-17. A heated liquid line and an atomizing gas line are connected to a spray nozzle. See p. 5, ll. 17-18. The spray nozzle is positioned within the dryer or granulator such that a liquid is sprayed within the adjustable cylindrical partition at a selected temperature. See p. 5, ll. 25-27, p. 7, ll. 11-12. The spray nozzle is also positioned in a non-heat conducting relation to the bottom screen where the spray nozzle is also located substantially on the vertical axis of the fluid bed dryer or granulator. See p. 7, ll. 11-12, p. 8, ll. 14-

17.

The process also includes loading the dryer with a bed of particles and adjusting the cylindrical partition such that the position of the top of the cylindrical partition is above the bed of particles and such that product can be removed from the dryer. See p. 6, ll. 9-12. A position of the spray nozzle is adjusted such that a spray zone is created within the cylindrical partition. See p. 7, ll. 11-12, p. 5, ll. 25-27. A gas is provided to fluidize the bed of particles through the bottom screen. See p. 12, ll. 4-22. Atomizing gas is provided to the process through the spray nozzle along with a liquid at a selected temperature through a heated liquid line. See p. 7, ll. 11-15, p. 16, l. 14. The liquid is atomized through the spray nozzle and contacts particles within the cylindrical partition and spray zone. See p. 8, ll. 6-11. As the particles enter an area outside the partition, the particles begin to dry in a reconditioning zone. See p. 8, ll. 4-6. The particles are circulated from the fluidized bed up through the cylindrical partition and down through the drying zone and back into the fluidized bed until a selected amount of liquid is coated onto the particles. See p. 8, ll. 6-11. Throughout the coating process, an air inlet temperature, a product temperature, a spray liquid temperature, a spray nozzle temperature, and an atomizing air temperature, a spray liquid line temperature, a coating zone temperature, a fluidized gas flow and an atomizing gas pressure are monitored. See p. 18, ll. 23-28.

The process can be used for both coating particles and to agglomerate particles together. See p. 5, ll. 10-13. The liquid used for coating the particles could include a liquid fat or a hot melt. See p. 8, ll. 18-20. The cylindrical partition has a diameter to length ratio that is greater than or equal to one. See p. 7, ll. 1-2. The spray nozzle is adjustable along the vertical axis such that the top of the nozzle is positionable

within the cylindrical partition or below the bottom edge of the cylindrical partition. See p. 7, ll. 11-12, p. 11, ll. 16-19, p. 14, ll. 2-4.

DESCRIPTION OF REFERENCES RELIED ON BY THE EXAMINER

U.S. Patent No. 4,858,552 to Glatt et al., hereinafter the Glatt patent, discloses an apparatus and process for making pellets from a fluidized material having a fluid bed chamber with a perforated base and an open upper end in which a rotatable plate for shaping the pellets is located. Gas for creating the fluidized bed is introduced through a perforated base through which a spray nozzle is inserted in a heat conducting relationship. A liquid spray medium is atomized through the spray nozzle and contacts fluidized particles within a rise tube. The coated particles exit the rise tube and impinge upon the rotating plate, which directs particles in a downward direction and back into the fluidized bed. A circulating path is created from the fluidized bed through the cylindrical partition into the rotating plate and back down into the fluidized bed to its drying zone.

U.S. Patent No. 3,354,863 to Reynolds, hereinafter the Reynolds patent, discloses a method and apparatus for coating materials with materials in a fluidized bed. The Reynolds patent discloses a vertical draft tube positioned within a column and a bi-fluid nozzle disposed beneath the draft tube. The particles are fluidized with the gas flowing through a grate in the bottom of the column such that the particles enter into the vertical draft tube and contact a spray liquid atomized through a spray nozzle, which agglomerates the particles together. As the particles exit the draft tube, the particles fall back down into the fluidized bed. While falling into the fluidized bed, the liquid is dried onto the particles.

U.S. Patent No. 5,632,102 to Luy et al., hereinafter the Luy patent, discloses an apparatus for coating particles

within a fluidized bed. The Luy discloses an apparatus having a cylindrical chamber substantially along a vertical axis of the vessel and a perforated base. Gas flows through the perforated base to fluidize the particles through the coating chamber where a spray nozzle, in conductive relationship to the perforated base, sprays a liquid medium into the spraying chamber, which coats the particles. As the particles exit the coating chamber, the particles fall back into the fluidized bed while drying the material to the particles. The Luy patent also discloses providing the spray medium through a heated liquid line.

U.S. Patent No. 4,993,264 to Cody et al., hereinafter the Cody patent discloses a passive acoustic process to monitor the level of a fluidized bed in a fluid bed reactor used in an oil refining process to break down larger molecules into smaller molecules. Accelomerators are attached to the wall of the reactor vessel vertically from a reference point near the bottom of the vessel. Electrical signals from the accelerometers proportionate to the wall's normal acceleration is amplified and transmitted to the control room where the signal is converted to determine the bed level in the reactor. The Cody patent also discloses generally that pressure, temperature and net volume or mass flow are monitored in a fluidized bed.

U.S. Patent No. 4,217,851 to Biehl et al., hereinafter the Biehl patent, discloses a coating apparatus having a cylindrical tower with a gas distribution plate attached to a bottom end of the tower. Fluidizing gas flows through the gas distribution plate and fluidizes particles that flow through a coating chamber. A spray nozzle having three spray heads makes a tri-lobal spray distribution pattern within the interior of the cylindrical partition. The particles are fluidized through the spray partition where they contact the liquid material within the partition wherein the coated particles exit the partition and dry as they fall back into the fluidized bed thereby creating a

recirculating pattern.

Copies of the references are provided in Appendix B.

ISSUES

I. Whether claims 13-16, 18, and 26-30 are obvious under 35 U.S.C. § 103(a) as being unpatentable, over the Glatt patent in view of the Reynolds patent further in view of the Luy patent and further in view of the Cody patent.

GROUPING OF CLAIMS

The following groupings of claims are made solely in the interest of consolidating issues and expediting this Appeal. No grouping of claims is intended to be nor should be interpreted as being any form of admission or a statement as to the scope or obviousness of any limitation.

Claims 13-18 and 26-30 stand and fall together.

ARGUMENT

I. The Glatt patent in view of the Reynolds patent further in view of the Luy patent and further in view of the Cody patent do not teach, suggest or make obvious the invention of the present application as defined in claims 13-16, 18, and 26-30.

A. The Examiner has failed to establish a case of prima facie obvious under 35 U.S.C. § 103(a) for claims 13-16, 18 and 26-30.

Under 35 U.S.C. § 103(a), the Examiner bears the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). To establish a prima facie case of obviousness, the Examiner must show some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in art would lead that individual to combine

the relevant teachings of the references. *Id.* If the Examiner does not establish a prima facie case of obviousness, the rejection is improper and will be overturned. *In re* Rijckaert, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish a prima facie case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 U.S.P.Q. 580 (C.C.P.A. 1974). "All the words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970). If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *In re Fine*, 5 U.S.P.Q.2d at 1600.

The Examiner has failed to establish a prima facie case of obviousness because neither the Glatt patent, the Reynolds patent, the Luy patent or the Cody patent disclose each and every element of independent claims 13, 26, and 30. Only claims 13, 26, and 30 will be discussed because if the independent claims are non-obvious then the dependent claims are also non-obvious. *See, In re Fine*, 5 U.S.P.Q.2d at 1600. In particular, none of the cited prior art references disclose monitoring an air inlet temperature, a product temperature, a spray liquid temperature, a spray nozzle temperature, an atomizing air temperature, a spray liquid line temperature, a coating zone temperature, a fluidizing gas flow, and an atomizing gas pressure.

A primary basis for the Examiner's rejection of claims 13, 26, and 30, each of which includes the similar elements of monitoring an inlet air temperature, a product temperature, a spray liquid temperature, a spray nozzle temperature, an atomizing air temperature, a spray line temperature, a coating zone temperature, a fluidizing gas flow temperature, and an atomizing gas pressure, is the Cody patent. The Examiner cited the Cody patent as generally disclosing that pressure, temperature, and net volume or mass flow is the normal way of monitoring the state of

fluidization within a fluidized bed or while unit is operating. (See, Col. 2, ll. 27-30). The Examiner then leaps to the following conclusion:

> "It would be obvious if one of ordinary skill in the art at the time of the invention was made to monitor an air inlet temperature, a product temperature, a spray liquid temperature, a spray nozzle temperature, an atomizing air temperature, a spray liquid line temperature, a coating zone temperature, a fluid gas flow and an atomizing gas pressure in a process of Glatt et al. in view of Reynolds, in view of Luy et al., for coating particles with the expectation of providing the desired normal coating operation since Cody et al. taught that pressure, temperature, and net volume and mass flow are the normal ways of monitoring the state of fluidization within a fluidized bed while the unit is operating."

(Office Action mailed April 28, 2003, p. 3). However, there is no teaching in the Cody patent, or any other cited patent, to monitor each and every one of the specific process conditions as claimed in claims 13, 26, and 30.

The Examiner has implicitly admitted the Cody patent does not teach or suggest monitoring the specific process conditions. The Cody patent simply makes a statement that pressure, temperature, and net volume are normally monitored in a fluidized bed dryer. Applicant is not making a claim to such broad elements. Rather, Applicant is claiming specific temperature locations along with gas flow and atomizing gas pressure in view of Applicant's fluid bed dryer construction. Nothing in the Cody patent or the other cited references teaches or suggests the monitoring of these process variables.

The Examiner has failed to meet her burden of establishing a *prima facie* case of obviousness because the Examiner has failed to disclose a reference or combination of references, which disclose each and every element of independent

claims 13, 26, and 30. Specifically, the Examiner has failed to disclose a prior art reference, which employs a fluidized bed for coating particles that also discloses monitoring an air inlet temperature, a product temperature, a spray liquid temperature, a spray nozzle temperature, an atomizing air temperature, a spray liquid line temperature, a coating zone temperature, a fluidizing gas flow and an atomizing gas pressure.

Therefore, independent claims 13, 26, and 30 are not obvious under 35 U.S.C. § 103(a) over the Glatt et al. patent, in view of the Reynolds patent, further in view of the Luy patent, and further in view of the Cody patent. The Examiner's rejection of claims 13, 26, and 30 must be reversed.

Because claims 14-18 depend from independent claim 13, which is non-obvious, claims 14-18 are also non-obvious. Therefore, the rejection of claim 14-18 must be reversed.

Because claim 26 is non-obvious, claims 27-29 are also non-obvious. Therefore, the rejection of claims 27-29 must be reversed.

Alternatively, the Examiner may be implying that the Examiner is taking official notice without documentary evidence to support the Examiner's conclusion that it would be obvious to monitor the above-mentioned process variables. However, since the Examiner's alleged findings are adequately traversed, the Examiner must provide documentary evidence to maintain the rejection. The Examiner has failed to do so. Regarding Official Notice, the Examiner's rejection has come into conflict with the Manual of Patent Examining Procedure § 2144.03(e) in making the obviousness rejection.

> "Any rejection based on assertions that a fact is well known or common knowledge in the art without documentary evidence to support the Examiner's conclusions should be judiciously applied. Furthermore, as noted by the Court in *Ahlert*, any facts noted

> should be of notorious nature and serve only to "fill in gaps" in an insubstantial matter, which might exist in the evidentiary showing made by the Examiner to support a particular ground for rejection. It is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection was based."

The Examiner improperly relied on the Cody patent as the principal evidence to support the rejection of independent claims 13, 26, and 30. Further, monitoring no less than nine process conditions as claimed in each of the independent claims is not an insubstantial matter. As stated in the MPEP this is an improper rejection. Therefore, the Examiner's rejection of claims 13, 26, and 30 must be reversed.

Because claims 14-18 depend from independent claim 13, which is non-obvious, claims 14-18 are also non-obvious. Therefore, the rejection of claim 14-18 must be reversed.

Because claim 26 is non-obvious, claims 27-29 are also non-obvious. Therefore, the rejection of claims 27-29 must be reversed.

B. <u>The Examiner improperly relied on hindsight to combine the references used to arrive at the conclusion that claims 13-16, 18, and 26-30 of the present application are obvious.</u>

It is improper to use hindsight reconstruction to pick and choose among isolated disclosures in the prior art. *In re Fine*, 5 U.S.P.Q.2d at 1600. An Examiner should forget the invention at issue when considering whether it would be obvious to modify a prior art disclosure. *W.L. Gore and Associates, Inc. v. Garlock, Inc.*, 220 U.S.P.Q. 303, 312-13 (Fed. Cir. 1983). Each of the independent claims, claims 13, 26, and 30 include the elements of coating particles in a fluidized bed contained within a dryer

wherein the air inlet temperature, a product temperature, a spray liquid temperature, a spray nozzle temperature, the atomizing air temperature, a spray line temperature, a coating zone temperature, a fluid gas flow and an atomizing gas pressure are monitored.

The Examiner erroneously rejected each of the independent claims as being obvious under 35 U.S.C. § 103(a) over the Glatt patent in view of the Reynolds patent, the Luy patent and the Cody patent. However, there is no teaching or suggestion in any of the prior art references to combine either the Glatt patent, the Reynolds patent, or the Luy patent, all disclosing apparatuses and methods for coating particles with the Cody patent.

The Cody patent discloses a process monitor for monitoring the level of a fluidized bed in a petrochemical or oil refining unit. Further, the units in which the process monitor is designed to be used is in a catalytic cracking unit or a fluid bed coker unit, both of which break down larger molecules to produce lighter and more valuable products. See, Col. 1, ll. 3-17.

The Examiner is attempting to combine a reference that teaches the destruction of molecules with other references, which teach coating and/or agglomerating molecules. There is no teaching or suggestion in the Glatt patent, the Reynolds patent or the Luy patent that would lead one skilled in the art to make the combination with the Cody patent.

The only reason to combine these references is the invention disclosed in the present application. The Examiner improperly used the invention disclosed in the present application to make the combination of references. This hindsight reconstruction of the invention is improper. Therefore, the Examiner's rejection of independent claims 13, 26, and 30 must be reversed.

Because claim 13 is non-obvious, claims 14-18 which depend from independent claim 13 are also non-obvious. Therefore,

the rejection of claims 13-18 must also be reversed.

Claim 26 is also non-obvious in view of the cited references. Therefore claims 27-29 are also non-obvious and the rejection of claims 27-29 must be reversed.

C. Claim 17 is non-obvious.

The Examiner rejected claim 17 as being obvious over the Glatt patent in view of the Reynolds further in view of the Luy patent, further in view of the Cody patent, further in view of the Biehl patent.

However, claim 17 depends from independent claim 13, which is non-obvious for the reasons stated in sections A and B of this Brief. Because independent claim 13 is non-obvious, dependent claim 17 is also non-obvious. See, *In Re Fine*, 5 U.S.P.Q.2d at 1600. Therefore, the Examiner's rejection of claim 17 as being obvious must be reversed.

CONCLUSION

For the foregoing reasons claims 13-18 and 26-30 are non-obvious. Applicant respectfully requests that the Examiner's rejections be reversed and that the application be allowed.

Respectfully submitted,

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Appendix A

Claims 1-12 (Canceled)

13. (Previously presented) A process for coating particles comprising:

providing an insert within an upward flowing fluid bed dryer or granulator with a screen across the bottom of the dryer or granulator, the insert comprising a vertically adjustable cylindrical partition located substantially on a vertical axis of the granulator or dryer, a spray nozzle with a heated liquid line and an atomizing gas line connected thereto which is positioned such that a liquid is sprayed within the adjustable cylindrical partition at a selected temperature, the spray nozzle being position in a non-heat conducting relation to the bottom screen, the spray nozzle being located substantially on the vertical axis;

loading the dryer with a bed particles;

adjusting the cylindrical partition such that the position of the top of the cylindrical partition is above the bed of particles and product can be removed from the dryer;

adjusting the spray nozzle such that a spray zone is created within the cylindrical partition;

providing a gas to fluidize the bed of particles through the bottom screen;

providing an atomizing gas which is processed through the spray nozzle;

providing the liquid at the selected temperature in the heated liquid line which is atomized through the spray nozzle;

contacting the particles with the liquid from the spray nozzle within the cylindrical partition and spray zone;

drying the particles in an area outside the partition;

circulating the particles from the fluidized bed up through the cylindrical partition, down through the drying zone and back into the fluidized bed until a selected amount of liquid is coated onto the particles; and

wherein an inlet air temperature, a product temperature, a spray liquid temperature, a spray nozzle temperature, an atomizing air temperature, a spray liquid line temperature, a coating zone temperature, a fluidizing gas flow, and atomizing gas pressure are monitored.

14. (Original) The process of claim 13 wherein the liquid is provided for coating particles.

15. (Original) The process of claim 13 wherein the liquid is provided to agglomerate the particles.

16. (Original) The process of claim 14 wherein the liquid for coating the particles includes a liquid fat or hot melt.

17. (Original) The process of claim 13 wherein the cylindrical partition has a diameter to length ratio greater than or equal to 1.

18. (Original) The process of claim 13 wherein the spray nozzle is adjustable along the vertical axis such that the top of the nozzle is positionable within the cylindrical partition or below the bottom edge of the cylindrical partition.

Claims 19-25 (Canceled)

26. (Previously presented) A process for coating particles comprising:

providing a cylindrical insert whose central axis is disposed in a vertical direction within an upward flowing fluid bed dryer such that fluidized particles within the fluid bed dryer travel upwardly through the insert, and a spray nozzle supplied with a heated liquid sustained at a selected temperature with a heated liquid line such that the liquid is sprayed within the cylindrical insert, and the spray nozzle being disposed in a non-heat conducting relation with regard to a bottom screen within the fluid bed dryer, the spray nozzle being located substantially along the central axis of the cylindrical insert;

loading the dryer with particles to be coated;

adjusting the cylindrical partition's vertical position within the fluid bed dryer;

adjusting the spray nozzle such that a spray zone is created within the cylindrical insert;

fluidizing the particles with a gas stream in an upward direction such that particles travel through the cylindrical insert;

providing an atomized liquid at the selected temperature through the spray nozzle to coat the particles within the cylindrical insert;

permitting the particles to dry outside of the cylindrical partition;

recirculating the particles through the cylindrical insert until a selected amount of liquid is coated on the particles; and

wherein an inlet air temperature, a product temperature, a spray liquid temperature, a spray nozzle temperature,

an atomizing air temperature, a spray liquid line temperature, a coating zone temperature, a fluidizing gas flow, and atomizing gas pressure are monitored.

27. (Original) The process of claim 26 wherein the liquid for coating the particle includes a liquid fat or hot melt.

28. (Original) The process of claim 26 wherein the spray nozzle is positionable within the cylindrical insert or below the bottom edge of the cylindrical insert.

29. (Original) The process of claim 13 wherein the cylindrical insert is positioned so that coated particles can be withdrawn from the dryer without having to remove the insert.

30. (Previously presented) A method for coating particles within a dryer that is capable of fluidizing a bed of particles, the method comprising:

positioning a cylindrical partition having an axis extending concentrically therein such that the axis is disposed vertically with respect to upward flow of gas through the cylindrical partition creating a coating zone within the partition and above the partition and a drying zone outside of the coating zone;

positioning a spray nozzle along the axis of the cylindrical partition for spraying a coating solution onto the particles such that the spray from the nozzle coats the particles within the partition and in an area above the partition;

supplying the coating solution to the spray nozzle at a selected temperature via a heated line;

fluidizing the bed of particles such that particles flow through the partition in an upward fashion for coating

and travel upwardly and outside of the coating zone and then downwardly settling outside of the partition and coating zone for drying creating a coating cycle;

repeating the coating cycle until a selected amount of coating is placed onto the particle; and

wherein an inlet air temperature, a product temperature, a spray liquid temperature, a spray nozzle temperature, an atomizing air temperature, a spray liquid line temperature, a coating zone temperature, a fluidizing gas flow, and atomizing gas pressure are monitored.

Appendix B

U.S. Patent No. 3,354,863 Reynolds
U.S. Patent No. 4,217,851 Biehl et al.
U.S. Patent No. 4,858,552 Glatt et al.
U.S. Patent No. 4,993,264 Cody et al.
U.S. Patent No. 5,632,102 Luy et al.

Appendix C

In re Fine, 5 U.S.P.Q.2d 1596
W.L. Gore and Associates, Inc. v. Garlock, Inc., 220 U.S.P.Q. 303
In re RIJCKAERT, 28 U.S.P.Q.2d 1955
In re Royka, 180 U.S.P.Q. 580
In re Wilson, 165 U.S.P.Q. 494

35 U.S.C. § 103(a)

Manual of Patent Examining Procedures Section 144.03(e)

[General Notes]

3 copies of the brief must be filed.
Fee must be submitted with brief.
Send separate transmittal letter.

"*****" denotes a section which is not required by MPEP § 1206.